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(54) Title: SKIN CLEANSING COMPOSITION PROVIDING ENHANCED PERFUMED DEPOSITION			
(57) Abstract			
<p>A method for cleansing the skin and providing an increased fragrance benefit after rinsing the skin from the cleansing composition which comprises applying to the skin a composition having: (a) one or a mixture of surfactants in sufficient quantity to cleanse the skin; (b) a fragrance in sufficient quantities to provide an aroma; (c) a silicone, a hydrocarbonaceous component or mixture thereof in sufficient quantities to bring about an increased fragrance benefit, and rinsing off said composition.</p>			

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SKIN CLEANSING COMPOSITION PROVIDING ENHANCED PERFUMED DEPOSITION

BACKGROUND OF THE INVENTION

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Fragrances have been employed in skin care compositions for hundreds of years. These fragrances have a number of uses. They provide a recognized aroma to the user of the composition or a person in close juxtaposition to that person.

10 Fragrances mask the odor produced by bacteria growing on the skin. Fragrances can work as a solubilizing agent for other organic materials in the composition. However, not infrequently the effects of fragrances in skin care compositions, particularly those of the "rinse-off" type are short lived. Assuming they stay on the skin during the short contact time and are not washed off during the skin care process, their adherence to the skin may be weak and/or their detachment from the skin occurs at too quick a rate, 15 thereby leaving no significant odor after a short period of time following rinse off. Therefore in order to provide an appropriate fragrance to the head space above the skin, there must be a proper combination of quantity of fragrance on the skin, adhesion to the skin and release from the skin over an appropriate time period. This combination will provide a "persistent" odor over a significant period of time.

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A new composition has been discovered which can provide these fragrance benefits. The composition is a rinse-off cleansing composition which provides an improvement in fragrance benefits.

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SUMMARY OF THE INVENTION

In accordance with the invention, there is a method for cleansing the skin and providing an increased fragrance benefit after rinsing the skin from the cleansing composition which comprises, applying to the skin a composition having:

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- a. one or a mixture of surfactants in sufficient quantity to cleanse skin;
- b. a fragrance in sufficient quantities to provide aroma
- c. a silicone or a hydrocarbonaceous component or mixtures 35 thereof in sufficient quantities to bring about increased fragrance benefits

and rinsing off said composition.

DETAILED DESCRIPTION OF THE INVENTION

By fragrance is meant any volatile perfume agent which provides an aroma to the final composition in which the fragrance residues. Examples of such materials are those boiling at temperatures below about 500°C. The highly volatile, low boiling, perfume ingredients typically have boiling points of about 250°C or lower. The moderately volatile perfume ingredients are those having boiling points of from about 250°C to about 300°C. The less volatile, high boiling, perfume ingredients are those having boiling points of about 300°C to about 500°C. Many of the perfume ingredients as discussed hereinafter along with their odor and/or flavor characters, and their physical and chemical properties, such as boiling point and molecular weights are given in "Perfume and Flavor Chemicals (Aroma Chemicals)," Steffen Arctander, published by the author, 1969, incorporated herein by reference. It is preferred that the personal cleansing products herein contain a fragrance having at least about 5% of its components, more preferably at least about 25%, and most preferably at least about 50% of the fragrance components as highly volatile perfume ingredients having a boiling point of 250°C or lower.

Examples of the highly volatile, low boiling, perfume ingredients are: anethole, benzaldehyde, benzyl acetate, benzyl alcohol, benzyl formate, iso-bornyl acetate, camphene, cis-citral (neral), citronellal, citronellol, citronellyl acetate, para-cymene, decanal, dihydrolinalool, dihydromyrcenol, dimethyl phenyl carbinol, eucalyptol, geranial, geraniol, geranyl acetate, geranyl nitrile, cis-3-hexenyl acetate, hydroxycitronellal, d-limonene, linalool, linalool oxide, linalyl acetate, linalyl propionate, methyl anthranilate, alpha-methyl ionone, methyl nonyl acetaldehyde, methyl phenyl carbinyl acetate, laevo-menthyl acetate, menthone, iso-menthone, myrcene, myrcenyl acetate, myrcenol, nerol, neryl acetate, nonyl acetate, phenyl ethyl alcohol, alpha-pinene, beta-pinene, gamma-terpinene, alpha-terpineol, beta-terpineol, terpinyl acetate, and vertenex (para-tertiary-butyl cyclohexyl acetate). Some natural oils also contain large percentages of highly volatile perfume ingredients. For example, lavandin contains as major components: linalool; linalyl acetate; geraniol; and citronellol. Lemon oil and orange terpenes both contain about 95% of d limonene.

Examples of moderately volatile perfume ingredients are: amyl cinnamic aldehyde, iso-amyl salicylate, beta-caryophyllene, cedrene, cinnamic alcohol, coumarin, dimethyl benzyl carbinyl acetate, ethyl vanillin, eugenol, iso-eugenol, flor acetate, heliotropine, 3-cis-hexenyl salicylate, hexyl salicylate, linal (para

tertiarybutyl-alpha-methyl hydrocinnamic aldehyde), gamma-methyl ionone, nerolidol, patchouli alcohol, phenyl hexanol, beta-selinene, trichloromethyl phenyl carbinyl acetate, triethyl citrate, vanillin, and veratraldehyde. Cedarwood terpenes are composed mainly of alpha-cedrene, beta-cedrene, and other C₁₅H₂₄ sesquiterpenes.

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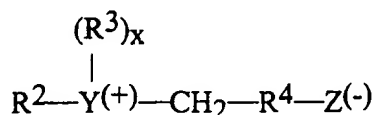
The surfactants which can be used in the composition include the following families: anionic, amphoteric, nonionic and cationic, alone or in combination. Soap, a long chain alkyl or alkenyl, branched or normal carboxylic acid salt such as sodium, potassium, ammonium or substituted ammonium salt, can be present in the composition. Exemplary of long chain alkyl or alkenyl are from about 8 to about 22 carbon atoms in length, specifically about 10 to about 20 carbon atoms in length, more specifically alkyl and most specifically normal, or normal with little branching. Small quantities of olefinic bond(s) may be present in the predominantly alkyl sections, particularly if the source of the "alkyl" group is obtained from a natural product such as tallow, coconut oil and the like.

Examples of anionic surfactants other than soap include but are not limited to alkyl sulfates, anionic acyl sarcosinates, methyl acyl taurates, N-acyl glutamates, acyl isethionates, alkyl sulfosuccinates, alkyl phosphate esters, ethoxylated alkyl phosphate esters, trideceth sulfates, protein condensates, mixtures of ethoxylated alkyl sulfates and the like.

Alkyl chains for these surfactants are C₈-C₂₂, preferably C₁₀-C₁₈, more preferably C₁₂-C₁₄. Anionic nonsoap surfactants can be exemplified by the alkali metal salts of organic sulfate having in their molecular structure an alkyl radical containing from about 8 to about 22 carbon atoms and a sulfonic acid or sulfuric acid ester radical (included in the term alkyl is the alkyl portion of higher acyl radicals). Preferred are the sodium, ammonium, potassium or triethanolamine alkyl sulfates, especially those obtained by sulfating the higher alcohols (C₈-C₁₈ carbon atoms), sodium coconut oil fatty acid monoglyceride sulfates and sulfonates; sodium or potassium salts of sulfuric acid esters of the reaction product of 1 mole of a higher fatty alcohol e.g., tallow or coconut oil alcohols) and 1 to 12 moles of ethylene oxide; sodium or potassium salts of alkyl phenol ethylene oxide ether sulfate with 1 to 10 units of ethylene oxide per molecule and in which the alkyl radicals contain from 8 to 12 carbon atoms, sodium alkyl glyceryl ether sulfonates; the reaction product of fatty acids having from 10 to 22 carbon atoms esterified with isethionic acid and

neutralized with sodium hydroxide; water soluble salts of condensation products of fatty acids with sarcosine; and others known in the art.

Zwitterionic surfactants can be exemplified by those which can be broadly described as derivatives of aliphatic quaternary ammonium, phosphonium, and sulfonium compounds, in which the aliphatic radicals can be straight chain or branched and wherein one of the aliphatic substituents contains from about 8 to 18 carbon atoms and one contains an anionic water-solubilizing group, e.g., carboxy, sulfonate, sulfate, phosphate, or phosphonate. A general formula for these compounds is:



wherein R^2 contains an alkyl, alkenyl, or hydroxy alkyl radical of from about 8 to about 18 carbon atoms, from 0 to about 10 ethylene oxide moieties and from 0 to 1 glyceryl moiety; Y is selected from the group consisting of nitrogen, phosphorus, and sulfur atoms; R^3 is an alkyl or monohydroxyalkyl group containing 1 to about 3 carbon atoms; X is 1 when Y is a sulfur atom and 2 when Y is a nitrogen or phosphorus atom, R^4 is an alkylene or hydroxyalkylene of from 0 to about 4 carbon atoms and Z is a radical selected from the group consisting of carboxylate, sulfonate, sulfate, phosphonate, and phosphate groups.

Examples include: 4-[N,N-di(2-hydroxyethyl)-N-octadecylammonio]-butane-1-carboxylate; 5-[S-3-hydroxypropyl-S-hexadecylsulfonio]-3-hydroxypentane-1-sulfate; 3-[P,P-P-diethyl-P-3,6,9-trioxatetradecyl-phosphonio]-2-hydroxypropane-1-phosphate; 3-[N,N-dipropyl-N-3-dodecoxy-2-hydroxypropylammonio]-propane-1-phosphonate; 3-(N,N-di-methyl-N-hexadecylammonio)propane-1-sulfonate; 3-(N,N-dimethyl-N-hexadecylammonio)-2-hydroxypropane-1-sulfonate; 4-(N,N-di(2-hydroxyethyl)-N-(2-hydroxydodecyl)ammonio)-butane-1-carboxylate; 3-[S-ethyl-S-(3-dodecoxy-2-hydroxypropyl)sulfonio]-propane-1-phosphate; 3-(P,P-dimethyl-P-dodecylphosphonio)-propane-1-phosphonate; and 5-[N,N-di(3-hydroxypropyl)-N-hexadecylammonio]-2-hydroxy-pentane-1-sulfate.

Examples of amphoteric surfactants which can be used in the compositions of the present invention are those which can be broadly described as derivatives of aliphatic secondary and tertiary amines in which the aliphatic radical can be straight chain or branched and wherein one of the aliphatic substituents contains from about 8

to about 18 carbon atoms and one contains an anionic water solubilizing group, e.g., carboxy, sulfonate, sulfate, phosphate, or phosphonate. Examples of compounds falling within this definition are sodium 3-dodecylaminopropionate, sodium 3-dodecylaminopropane sulfonate, N-alkyltaurines, such as the one prepared by reacting
5 dodecylamine with sodium isethionate according to the teaching of U.S. Patent No. 2,658,072, N-higher alkyl aspartic acids, such as those produced according to the teaching of U.S. Patent No. 2,438,091, and the products sold under the trade name "Miranol" and described in U.S. Patent No. 2,528,378. Other amphoterics such as betaines are also useful in the present composition.

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Examples of betaines useful herein include the high alkyl betaines such as coco dimethyl carboxymethyl betaine, 1 auryl dimethyl carboxy-methyl betaine, lauryl dimethyl alpha-carboxyethyl betaine, cetyl dimethyl carboxymethyl betaine, lauryl bis-(2-hydroxyethyl)carboxy methyl betaine, stearyl bis-(2-hydroxypropyl)
15 carboxymethyl betaine, oleyl dimethyl gamma-carboxypropyl betaine, lauryl bis-(2-hydro-xypropyl) alpha-carboxyethyl betaine, etc. The sulfobetaines may be represented by coco dimethyl sulfopropyl betaine, stearyl dimethyl sulfopropyl betaine, amido betaines, amidosulfobetaines, and the like.

20 Many cationic surfactants are known to the art. By way of example, the following may be mentioned:

- stearyldimenthylbenzyl ammonium chloride;
- dodecyltrimethylammonium chloride;
- nonylbenzylethyldimethyl ammonium nitrate;
- 25 - tetradecylpyridinium bromide;
- laurylpyridinium chloride;
- cetylpyridinium chloride
- laurylpyridinium chloride;
- laurylisoquinolium bromide;
- 30 - ditallow(Hydrogenated)dimethyl ammonium chloride;
- dilauryldimethyl ammonium chloride; and
- stearalkonium chloride.

Additional cationic surfactants are disclosed in U.S. Patent No. 4,303,543 see
35 column 4, lines 58 and column 5, lines 1-42, incorporated herein by references. Also see CTFA Cosmetic Ingredient Dictionary, 4th Edition 1991, pages 509-514 for various long chain alkyl cationic surfactants; incorporated herein by references.

Nonionic surfactants can be broadly defined as compounds produced by the condensation of alkylene oxide groups (hydrophilic in nature) with an organic hydrophobic compound, which may be aliphatic or alkyl aromatic in nature.

Examples of preferred classes of nonionic surfactants are:

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1. The polyethylene oxide condensates of alkyl phenols, e.g., the condensation products of alkyl phenols having an alkyl group containing from about 6 to 12 carbon atoms in either a straight chain or branched chain configuration, with ethylene oxide, the said ethylene oxide being present in amounts equal to 10 to 60 moles of ethylene oxide per mole of alkyl phenol. The alkyl substituent in such compounds may be derived from polymerized propylene, diisobutylene, octane, or nonane, for example.
2. Those derived from the condensation of ethylene oxide with the product resulting from the reaction of propylene oxide and ethylene diamine products which may be varied in composition depending upon the balance between the hydrophobic and hydrophilic elements which is desired. For example, compounds containing from about 40% to about 80% polyoxyethylene by weight and having a molecular weight of from about 5,000 to about 11,000 resulting from the reaction of ethylene oxide groups with a hydrophobic base constituted of the reaction product of ethylene diamine and excess propylene oxide, said base having a molecular weight of the order of 2,500 to 3,000, are satisfactory.
3. The condensation product of aliphatic alcohols having from 8 to 18 carbon atoms, in either straight chain or branched chain configuration with ethylene oxide, e.g., a coconut alcohol ethylene oxide condensate having from 10 to 30 moles of ethylene oxide per mole of coconut alcohol, the coconut alcohol fraction having from 10 to 14 carbon atoms. Other ethylene oxide condensation products are ethoxylated fatty acid esters of polyhydric alcohols (e.g., Tween 20-polyoxyethylene (20) sorbitan monolaurate).
4. Long chain tertiary amine oxides corresponding to the following general formula:



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wherein R_1 contains an alkyl, alkenyl or monohydroxy alkyl radical of from about 8 to about 18 carbon atoms, from 0 to about 10 ethylene oxide moieties, and from 0 to 1 glyceryl moiety, and, R_2 and R_3 contain from 1 to about 3 carbon atoms

and from 0 to about 1 hydroxy group, e.g., methyl, ethyl, propyl, hydroxy ethyl, or hydroxy propyl radicals. The arrow in the formula is a conventional representation of a semipolar bond. Examples of amine oxides suitable for use in this invention include dimethyldodecylamine oxide, oleyl-di(2-hydroxyethyl) amine oxide, dimethyloctylamine oxide, dimethyldecylamine oxide, dimethyltetradecylamine oxide, 3,6,9 trioxaheptacyldiethylamine oxide, di(2-hydroxyethyl)-tetradecylamine oxide, 2-dodecoxyethyl dimethylamine oxide, 3-dodecoxy-2-hydroxypropyl di(3-hydroxypropyl)amine oxide, dimethylhexadecylamine oxide.

5. Long chain tertiary phosphine oxides corresponding to the following general formula:



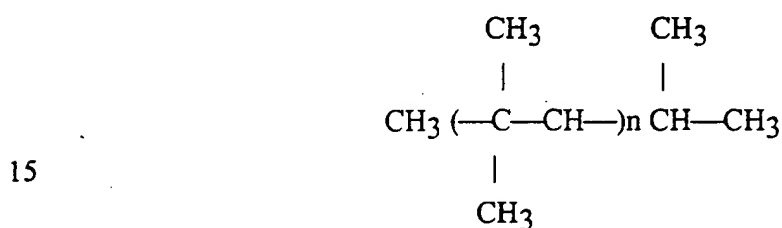
wherein R contains an alkyl, alkenyl or monohydroxyalkyl radical ranging from 8 to 20 carbon atoms in chain length, from 0 to about 10 ethylene oxide moieties and from 0 to 1 glyceryl moiety and R' and R'' are each alkyl or monohydroxyalkyl groups containing from 1 to 3 carbon atoms. The arrow in the formula is a conventional representation of a semipolar bond. Examples of suitable phosphine oxides are: dodecyldimethylphosphine oxide, tetradecylmethylethylphosphine oxide, 3,6,9-trioxaoctacyldimethylphosphine oxide, cetyldimethylphosphine oxide, 3-dodecoxy-2-hydroxypropyl di(2-hydroxyethyl) phosphine oxide, stearyldimethylphosphine oxide, cetylethyl propylphosphine oxide, oleyldiethylphosphine oxide, dodecyldiethylphosphine oxide, tetradecyldiethylphosphine oxide, dodecyldipropylphosphine oxide, dodecyldi(hydroxymethyl)phosphine oxide, dodecyldi(2-hydroxyethyl)phosphine oxide, tetradecylmethyl-2-hydroxypropylphosphine oxide, oleyldimethylphosphine oxide, 2-hydroxydodecyldimethylphosphine oxide.

6. Long chain dialkyl sulfoxides containing one short chain alkyl or hydroxy alkyl radical of 1 to about 3 carbon atoms (usually methyl) and one long hydrophobic chain which contain alkyl, alkenyl, hydroxy alkyl, or keto alkyl radicals containing from about 8 to about 20 carbon atoms, from 0 to about 10 ethylene oxide moieties and from 0 to 1 glyceryl moiety. Examples include: octadecyl methyl sulfoxide, 2-ketotridecyl methyl sulfoxide, 3,6,9-trioxaoctadecyl 2-hydroxyethyl sulfoxide, dodecyl methyl sulfoxide, oleyl 3-hydroxypropyl sulfoxide, tetradecyl

methyl sulfoxide, 3-methoxytridecylmethyl sulfoxide, 3-hydroxytridecyl methyl sulfoxide, 3-hydroxy-4-dodecoxybutyl methyl sulfoxide.

7. Alkylated polyglycosides wherein the alkyl group is from about 8 to about 20 carbon atoms, preferably about 10 to about 18 carbon atoms and the degree of polymerization of the glycoside is from about 1 to about 3, preferably about 1.3 to about 2.0.

Component e can be a typical hydrocarbonaceous material such as a wax, petrolatum, mineral oil, beeswax, a "permethyl" made up of longer chain branched hydrocarbons available from Permethyl Corporation. Permethyls are of the general formula



where n can vary from about 4 to over 200. Products where n = 4, 16, 38, 214, respectively, are marketed as Permethyl 102A, 104A, 106A and 1082A.

Additional hydrocarbonaceous materials include shea butter, coco butter, lanolins, lanoleic materials, such as long chain esters and ethers of lanolins and the like.

The petrolatum useful in the present invention can be any grade of white or yellow petrolatum recognized in the art as suitable for human application. Preferred petrolatum are those with a melting point in a range of from about 35°C to about 70°C, preferably about 50 to 60°C. The petrolatum of the composition can include hydrocarbon mixtures formulated with mineral oil and/or in combination with paraffin waxes of various melting points; all in small quantities compared to the petrolatum. A petrolatum without additional materials is preferred. Examples of waxes, particularly useful in solid compositions are microcrystalline waxes, generally those waxes which are known as paraffin wax, beeswax, and natural waxes derived from vegetables.

Silicone as used herein is preferably a silicone fluid, as opposed to a silicone gum. A silicone fluid is defined herein as silicone with viscosities ranging from about 5 to about 600,000 centistokes, more preferably from about 350 to about 100,000

centistoke at 25°C. Polyalkyl siloxanes such as polydimethyl siloxane generally known as "dimethicone", are preferred for use as the silicone.

The silicone materials useful in the present invention are generally non-volatile and may be either a polyalkyl siloxane, a polyaryl siloxane, a polyalkylaryl siloxane, a polysiloxane with amino functional substitutions, an alkoxyated silicone, such as ethoxy or propoxy, and a polyether siloxane copolymer. The silicones useful in the present invention may be endcapped with any number of moieties, including, for example, methyl, hydroxyl, ethylene oxide, propylene oxide, amino, trialkyl silane (preferably methyl), carboxyl, and the like. Mixtures of these materials may also be used and are preferred in certain implementations. Additionally, volatile silicones may be used as part of the silicone mixture so long as the final mixture is at least essentially non-volatile.

The polyalkyl silicones that may be used herein include, for example, polydimethyl siloxanes with viscosities ranging from about 5 to about 600,000 centistokes at 25°C. These siloxanes are available, for example, from General Electric Company as the Viscasil series and from Dow Corning as the Dow Corning 200 series. The viscosity can be measured by means of a glass capillary viscosimeter as set forth in Dow Corning Corporate Test Method CTM0004, Jul. 20, 1970. Preferably the viscosity ranges from about 50 centistokes to about 150,000 centistokes and most preferably from about 350 centistokes to about 100,000 centistokes.

The polyalkylaryl silicones that may be used include, for example, polymethylphenylsiloxanes having viscosities of from about 15 to about 65 centistokes at 25°C. These siloxanes are available, for example, from the General Electric Company as SF 1075 methyl phenyl fluid or from Dow Corning as 556 Cosmetic Grade Fluid. Additionally, poly(dimethyl siloxane) (diphenyl siloxane) copolymers having a viscosity in the range of from about 10 to about 100,000 centistokes at 25°C are useful. The polyether siloxane copolymer that may be used is, for example, a polypropylene oxide modified dimethylpolysiloxane (e.g., Dow

Corning DC-1248, although ethylene oxide or mixtures of ethylene oxide and propylene oxide may also be used.

References disclosing suitable silicones include U.S. Patent No. 2,826,551,
5 issued March 11, 1958; Green; U.S. Patent No. 3,964,500, issued June 22, 1967,
Drakoff; U.S. Patent No. 4,364,837, issued December 21, 1982, Pader; and British
Patent No. 849,433, Wooston, published September 28, 1960. All of these patents are
incorporated herein by reference. Also incorporated herein by reference is Silicon
Compounds, distributed by Petrarch Systems, Inc., 1984. This reference provides a
10 good listing of suitable silicone material.

Although not essential and can be omitted the presence of a cationic polymer
in the composition is preferred.

15 Cationic polymers includes but are not limited to the following
groups:

- (i) cationic polysaccharides;
- (ii) cationic copolymers of saccharides and synthetic
20 cationic monomers, and
- (iii) synthetic polymers selected from the group consisting
of:
 - a. cationic polyalkylene imines
 - 25 b. cationic ethoxy polyalkylene imines
 - c. cationic
poly[N-[3-(dimethylammonio)propyl]
N'[3-(ethyleneoxyethylene
dimethylammonio)propyl]urea dichloride]
 - 30 d. in general a polymer having a quaternary
ammonium or substituted ammonium ion.

The cationic polysaccharide class encompasses those polymers based on 5 or
35 6 carbon sugars and derivatives which have been made cationic by engrafting of
cationic moieties onto the polysaccharide backbone. They may be composed of one
type of sugar or of more than one type, i.e. copolymers of the above derivatives and
cationic materials. The monomers may be in straight chain or branched chain
geometric arrangements. Cationic polysaccharide polymers include the following:

cationic cell uloses and hydroxyethylcelluloses; cationic starches and hydroxyalkyl starches; cationic polymers based on arabinose monomers such as those which could be derived from arabinose vegetable gums; cationic polymers derived from xylose polymers found in materials such as wood, straw, cottonseed hulls, and corn cobs;

5 cationic polymers derived from fucose polymers found as a component of cell walls in seaweed; cationic polymers derived from fructose polymers such as Inulin found in certain plants; cationic polymers based on acid containing sugars such as galacturonic acid and glucuronic acid; cationic polymers based on amine sugars such as galactosamine and glucosamine; cationic polymers based on 5 and 6 membered

10 ring polyalcohols; cationic polymers based on galactose monomers which occur in plant gums and mucilages; cationic polymers based on mannose monomers such as those found in plants, yeasts, and red algae; cationic polymers based on galactomannan copolymer known as guar gum obtained from the endosperm of the guar bean.

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Specific examples of members of the cationic polysaccharide class include the cationic hydroxyethyl cellulose JR 400 made by Union Carbide Corporation; the cationic starches Stalok® 100, 200, 300, and 400 made by Staley, Inc.; the cationic galactomannans based on guar gum of the Galactasol 800 series by Henkel, Inc. and

20 the Jaguar Series by Celanese Corporation.

The cationic copolymers of saccharides and synthetic cationic monomers useful in the present invention encompass those containing the following saccharides: glucose, galactose, mannose, arabinose, xylose, fucose, fructose, glucosamine,

25 galactosamine, glucuronic acid, galacturonic acid, and 5 or 6 membered ring polyalcohols. Also included are hydroxymethyl, hydroxyethyl and hydroxypropyl derivatives of the above sugars. When saccharides are bonded to each other in the copolymers, they may be bonded via any of several arrangements, such as 1,4- α ; 1,4- β ; 1,3 α ; 1,3; 1,3 β ; and 1,6 linkages. The synthetic cationic monomers for use in

30 these copolymers can include dimethyldiallylammonium chloride, dimethylaminoethylmethacrylate, diethyldiallylammonium chloride, N,N-diallyl,N-N-dialkyl ammonium halides, and the like. A preferred cationic

polymer is Polyquaternium 7 prepared with dimethyldialkylammonium chloride and acrylamide monomers.

Examples of members of the class of copolymers of saccharides and synthetic
5 cationic monomers include those composed of cellulose derivatives (e.g. hydroxyethyl cellulose) and N,N-diallyl,N-N-dialkyl ammonium chloride available from National Starch Corporation under the tradename Celquat.

Further cationic synthetic polymers useful in the present invention are
10 cationic polyalkylene imines, ethoxypolyalkylene imines, and poly{N[3-(dimethylammonio)-propyl]-N'-[3-(ethyleneoxyethylene dimethylammonium) propyl]urea dichloride} CAS Reg. No. 68555-336-2. Preferred cationic polymeric skin conditioning agents of the present invention are those cationic polysaccharides of the cationic guar gum class with molecular weights of
15 1,000 to 3,000,000. More preferred molecular weights are from 2,500 to 350,000. These polymers have a polysaccharide backbone comprised of galactomannan units and a degree of cationic substitution ranging from about 0.04 per anhydroglucose unit to about 0.80 per anhydroglucose unit with the substituent cationic group being the adduct of 2,3-epoxypropyl-trimethyl ammonium chloride to the natural
20 polysaccharide backbone. Examples are JAGUAR C-14-S, C-15 and C-17 sold by Celanese Corporation, which trade literature reports have 1 % viscosities of from 125 cps to about 3500 ± 500 cps.

Still further examples of cationic polymers include the polymerized materials
25 such as certain quaternary ammonium salts, copolymers of various materials such as hydroxyethyl cellulose and dialkyldimethyl ammonium chloride, acrylamide and beta methacryloxyethyl trimethyl ammonium methosulfate, the quaternary ammonium salt of methyl and stearyl dimethylaminoethyl methacrylate quaternized with dimethyl sulfate, quaternary ammonium polymer formed by the reaction of diethyl
30 sulfate, a copolymer of vinylpyrrolidone and dimethyl aminoethylmethacrylate, quaternized guar and guar gums and the like. Exemplary of cationic polymers which can be used to make the complexes of this invention include, as disclosed in the CTFA International Cosmetic Ingredient Dictionary (Fourth Edition, 1991, pages 461

-464); Polyquaternium -1, -2, -4 (a copolymer of hydroxyethylcellulose and diallyldimethyl ammonium chloride), -5 (the copolymer of acrylamide and beta methacryloyloxyethyl trimethyl ammonium methosulfate), -6 (a polymer of dimethyl diallyl ammonium chloride), -7 (the polymeric quaternary ammonium salt of acrylamide and dimethyl diallyl ammonium chloride monomers), -8 (the polymeric quaternary ammonium salt of methyl and stearyl dimethylaminoethyl methacrylate quaternized with dimethyl sulfate), -9 (the polymeric quaternary ammonium salt of polydimethylaminoethyl methacrylate quaternized with methyl bromide), -10 (a polymeric quaternary ammonium salt of hydroxyethyl cellulose reacted with a trimethyl ammonium substituted epoxide), -11 (a quaternary ammonium polymer formed by the reaction of diethyl sulfate and a copolymer of vinyl pyrrolidone and dimethyl aminoethylmethacrylate), -12 (a polymeric quaternary ammonium salt prepared by the reaction of ethyl methacrylate/abietyl methacrylate/diethylaminoethyl methacrylate copolymer with dimethyl sulfate), -13 (a polymeric quaternary ammonium salt prepared by the reaction of ethyl methacrylate/oleyl methacrylate/diethylaminoethyl methacrylate copolymer with dimethyl sulfate), -14, -15 (the copolymer of acrylamide and betamethacryloyloxyethyl trimethyl ammonium chloride), -16 (a polymeric quaternary ammonium salt formed from methylvinylimidazolium chloride and vinylpyrrolidone), -17, -18, -19 (polymeric quaternary ammonium salt prepared by the reaction of polyvinyl alcohol with 2,3 epoxypyrrolamine), -20 (the polymeric quaternary ammonium salt prepared by the reaction of polyvinyl octadecyl ether with 2,3-epoxypropylamine), -22, -24 a polymeric quaternary ammonium salt of hydroxyethyl cellulose reacted with a lauryl dimethyl ammonium substituted epoxide), -27 (the block copolymer formed by the reaction of Polyquaternium-2 (q.v.) with Polyquaternium-17 (q.v.)), -28, -29 (is Chitosan (q.v.) that has been reacted with propylene oxide and quaternized with epichlorohydrin), and -30.

The preferred surfactant is an anionic surfactant such as soap, alkylisethionate such as sodium cocoylisethionate, a sulfonate, a sulfate (optionally ethoxylated) and the like. Mixtures of surfactants can be employed. There should be sufficient surfactant present to bring about a cleansing effect. The surfactant preferably anionic

or mixtures thereof involving one or more from the other families of illustrated surfactants (amphoteric, nonionic and the like) with or without an additional anionic surfactant, can be present in the composition in various quantities. For example broad minimums of the surfactant can be present at 1, 2, 3, 4, 5, 10, 15 or 20 wt.% of the compositions, particularly where the aqueous composition is a liquid. With respect to liquid, aqueous, compositions, the anionic surfactant is from about 2 to about 25 wt.% of the composition, specifically about 5 to about 20 wt.%. Other surfactants may be present such as an amphoteric, particularly a betaine, and a nonionic, particularly an alkylated polyglycoside. Their quantities are from about 1 to about 20 wt.% of the composition. Generally the total surfactant in a liquid composition is at least about 3 or 4 wt.%, preferably at least about 5 wt.% and is generally no more than about 30 wt.%, preferably no more than about 25 wt.% but can be as low as more than about 10, 15 or 20 wt.%. For a solid composition, the total surfactant can be from about 60 to about 90 wt.%, preferably from about 70 to about 85 wt.%, of the composition. Soap can be present at about 15 to about 100 wt.% of the total surfactant. "Soap-bars" generally have from about 65 to about 90 wt.% soap therein with less than about 10 wt.%, preferably less than about 5 wt.% of other surfactant therein. Most preferably, there is zero or zero to about 2 wt.% of other surfactant therein. Bars having a smaller quantity of soap within the disclosed range of soap usually have a mild synthetic surfactant therein such as sodium cocoyl isethionate at moderate to high levels.

If present, the quantity of hydrocarbonaceous component should be at least about 0.1, preferably from about 0.5 wt.% of the composition. Although about 7 or 8 wt.%, of the material can be employed, it is preferred to have a maximum of about 5 wt.%, preferably about 4.5 wt.% of the composition. If a silicone is present in the composition, the minimum quantity is about 0.01 wt.% of the composition, preferably at least about 0.1 wt.%. The maximum can vary but generally is not above about 7 or 8 wt.%, preferably about 5 wt.%, more preferably about 4.5 wt.% of the composition.

When using a cationic polymer in the composition, the quantity of polymer is from about 0.01 to about 3.0wt.% of the composition preferably about 0.02 wt.% as a minimum and more preferably about 0.03 wt.% as a minimum. The maximum is generally no more than about 0.9 wt.%, or about 0.75wt.%, although lower
5 maximums such as about 0.6wt.% can be employed.

The form of the composition can be liquid, solid or gel. The solids can be formulated into a "bar" which can be hand gel for cleansing purposes. The liquids can be formulated with such viscosities that are pourable from containers or expelled by a
10 hand activated pump, for example.

Fragrance benefits, used in this specification, can include enhanced deposition on skin, extended release of fragrance from the skin, selective deposition on skin of specific compounds associated with providing an aroma, and the like. The fragrance
15 should be present in quantities to provide an aroma. Generally, at least about 0.01 wt.%, preferably at least about 0.1 wt.% of the composition is a fragrance. A maximum quantity is generally dependent upon the strength and quantity of aroma desired. Usually not more than about 2 wt.%, preferably not more than about 1.5 wt.% of the composition of fragrance is employed.

CLAIMS

1. A method for cleansing the skin and providing an increased fragrance benefit after
5 rinsing the skin form the cleansing composition which comprises applying to the
skin a composition having
- (a) one or a mixture of surfactants in sufficient quantity to cleanse the skin,
 - (b) a fragrance in sufficient quantities to provide an aroma,
 - 10 (c) a silicone, a hydrocarbonaceous component or mixture thereof in sufficient
quantities to bring about an increased fragrance benefit,
- and rinsing off said composition.
- 15 2. The method in accordance with claim 1 where a cationic polymer is also present in
the composition.
3. The method in accordance with claim 1 wherein from 0 to less than about 0.01
wt.% of a silicone is present in the composition and the hydrocarbonaceous
20 component is present.
4. The method in accordance with claim 1 wherein from 0 to less than about 0.1 wt.
% of the hydrocarbonaceous component is present in the composition and the
silicone component is present.
- 25 5. The use of a composition comprising
- (a) one or a mixture of surfactants in sufficient quantity to cleanse the skin,
 - (b) a fragrance in sufficient quantities to provide an aroma,
 - 30 (c) a silicone, a hydrocarbonaceous component or mixture thereof in sufficient
quantities to bring about an increased fragrance benefit,
- in the preparation of a skin cleansing composition which provides an increased
fragrance benefit.
- 35 6. The use in accordance with claim 5 wherein the benefit is enhanced deposition of
fragrance upon the skin.

7. The use in accordance with claim 5 wherein the benefit is extended release of fragrance from the skin.

8. A composition comprising (a), (b) and (c) of claim 1.

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US 99/12102

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 A61K7/46 A61K7/48 A61K7/50 C11D3/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 A61K C11D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 96 41610 A (UNILEVER PLC ET AL.) 27 December 1996 (1996-12-27) page 3, line 8 - line 18 page 8, last paragraph page 10, last paragraph page 10, last paragraph page 11 -page 14 claims page 6, paragraph M --- -/--	1-8

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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INTERNATIONAL SEARCH REPORT

International Application No

PC/US 99/12102

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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